Patent claims:

1. An injection-locked oscillator circuit
comprising at least two oscillator stages, each oscillator stage having:
an inductance,
a capacitance connected in parallel with the inductance,
at least one output node,
a coupling-switching element subcircuit comprising at least one coupling-switching element which is coupled in parallel with the inductance and the capacitance in such a way that in each case precisely one coupling-switching element is present serially, and
at least one input terminal formed by means of the control terminal of the coupling-switching element,
the oscillator stages of the injection-locked oscillator circuit being coupled by means of the coupling-switching element subcircuits.

2. The injection-locked oscillator circuit as claimed in claim 1, in which each oscillator stage has precisely two output terminals at which signals that are differential with respect to one another are present.

3. The injection-locked oscillator circuit as claimed in claim 1 or 2, in which the coupling-switching element subcircuit has two additional coupling-switching elements which are connected up to one another and are in each case connected in parallel with the coupling-switching elements connected up to one another.

4. The injection-locked oscillator circuit as claimed in one of claims 1 to 3, in which the coupling-switching elements are transistors.

5. The injection-locked oscillator circuit as claimed in claim 4, in which the transistors are NMOS and/or PMOS transistors.

6. The injection-locked oscillator circuit as claimed in claim 5, in which a respective one of the transistors connected in parallel is a PMOS transistor and the other transistor connected in parallel is an NMOS transistor.

7. The injection-locked oscillator circuit as claimed in one of claims 1 to 6, in which the capacitances are formed by means of varactors.

8. The injection-locked oscillator circuit as claimed in one of claims 1 to 7, in which the oscillator stages have an active element.

9. The injection-locked oscillator circuit as claimed in one of claims 1 to 8, in which an even number of oscillator stages are coupled to form an injection-locked oscillator circuit.

10. The injection-locked oscillator circuit as claimed in claim 9, in which the number of input terminals of each oscillator stage is equal to the number of oscillator stages of the injection-locked oscillator circuit.

11. The injection-locked oscillator circuit as claimed in claim 9 or 10, in which the injection-locked oscillator circuit has four oscillator stages, each oscillator stage having precisely four input terminals and precisely two output terminals and two of the input terminals being coupled to the output terminals of a preceding oscillator stage of the injection-locked oscillator circuit in the signal flow direction, and the other two input

terminals being coupled to the output terminals of the downstream injection-locked oscillator circuit in the signal flow direction.

12. The injection-locked oscillator circuit as claimed in one of claims 1 to 8, in which the injection-locked oscillator circuit has an odd number of oscillator stages.